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THE UTCC INFORMATION OFFICE

The UTCC Information Office, featured on the cover of this issue of COMPUTERNEWS provides a centralized information service for all UTCC users. For new users who are unfamiliar with our facilities, the Information Office provides information concerning the location of various machines and the technical advisors and makes available the publications designed to get the novice started. The advanced user can expect help with such problems as locating the source of an application program or routine which may not be available in any of the on-line libraries and he can also obtain literature on latest developments in the computer field.

The Information Office also acts as a distribution centre for publications relating to UTCC software. The documentation stocked for sale includes USERBOOK, which outlines in detail UTCC´s systems, services and how to access them and a selection of the most commonly used IBM manuals and user guides for such packages as MARK IV, SPSS, BMD, DATATEXT and SAS. A number of supplementary user aids can also be picked up at no charge. These include "How-To´ guides which explain how to operate a Keypunch, a keypunch drum and various readers and printers and a number of quick reference cards for TSO, ATS-ATS/RJE, APL-APLSV and the UTCC General Purpose Job Stream statement.

Users who do not wish to carry around their own copies of manuals can make use of the Technical Reference Library. It is located in the same area as the Information Office and includes in its collection all manuals stocked by the Information Office as well as the publications referenced in USERBOOK, computer-related catalogues, directories, conference proceedings, technical reports, a complete set of IBM MVT and MVS manuals and a selection of periodicals and newsletters from over one hundred major computer installations in North America and Europe.

If you would like more specific information concerning the services provided by UTCC´s Information Office, or if you would like to attend an overview presentation of our library collection, please call 978-4990 or drop into Room 206, Engineering Annex (opposite the south door of the Sandford Fleming Building).

Marg Doherty

TIME-SHARING SYSTEM

The Advisory Committee on Computer Facilities and Services has recommended that the University of Toronto Computer Centre acquire a Digital Equipment Corporation (DEC) System 1060 to provide interactive computing services for our user community. This recommendation has received approval from the University Administration and the Computer Centre is in the process of finalizing the necessary contractual agreements with Digital.

cont´d...

TIME-SHARING SYSTEM cont´d

Of all the systems evaluated, the DEC system had the combination of functional capabilities and price/performance which would best satisfy the University´s interactive computing requirements.

There was some question as to whether the Computer Centre should acquire a DEC 1060 or the recently announced DEC 2050 System. The DEC 1060 System operates under the older and widely used TOPS10 operating system, whereas the DEC 2050 runs under a new TOPS20 operating system. The DEC 2050 hardware is implemented using more recent technology and the TOPS20 operating system has a somewhat simpler and easier to use command language. However, the TOPS20 system does not yet support some necessary functions which are supported by TOPS10.

All language processors, applications packages and user programs which run under TOPS10 also run under TOPS20 using a compatibility interface. The compatibility interface is a software program, transparent to the user, which simulates some DEC System 10 hardware instructions on the DEC System 20. The only language processer which runs only on the DEC System 20 is an extended version of the BASIC language called BASIC+2. All the other language processers on the DEC System 20 are, in fact, the DEC System 10 processors run with the compatibility interface.

The DEC System 10 has some benefits in the short term over the DEC System 20. However, in the long term, the DEC System 20, once it matures, would be the system which we would want to use. Therefore, it was decided that we should initially acquire a DEC 1060 with the option of upgrading to a DEC 1090 System. The DEC 1090 will have the capability of running either the TOPS10 or TOPS20 operating system and has about double the processing capacity of the DEC 1060. The 1060 to 1090 migration path that has been outlined also has the benefit of facilitating the conversion to a common DEC time-sharing system should a Regional Centre be formed (refer to the article, REGIONAL COMPUTING CENTRE REPORT in this issue of COMPUTERNEWS). The York-Ryerson Computing Centre currently operates a DEC 1060 System and the integration to two similar hardware and software systems would be relatively straightforward.

The DEC 1060 System implementation date has not yet been firmed up. The key element in the installation plan is moving the Sandford Fleming Terminal into the Engineering Annex as announced in last month´s issue of COMPUTERNEWS. The Annex has to be fitted with a raised floor and air conditioning and electrical distribution services before the Sandford Fleming Terminal can be moved. We are optimistic and hope that the terminal move will be completed by September 1977. After that, we can proceed with the installation of the DEC 1060 System in the space vacated by the Sandford Fleming Terminal. We will keep you up-to-date as we progress and our plans become fully developed.

Rein Mikkor

MVS RELEASE 3.7 BENCHMARKING RESULTS - June 1977

In the January 1977 issue of COMPUTERNEWS (No. 144), an article by Walter Berndl described a series of benchmark comparisons between UTCC´s current MVT2 1.7 system and MVS3.7. Since January, the MVS system has been completely rebuilt in order to give a base production MVS system. Included in this new system are further enhancements and fixes from IBM as well as UTCC local modifications. Among the significant changes included are:

- split spool
- TSO SWAP
- moving the master catalog from the system residency volume
- JES2 release 4.0 with mods designed to improve High Speed Job Stream performance

In order to evaluate the effect of these changes and to allow preliminary system tuning, the benchmark has been rerun on this current MVS system. This article describes the results from the new series of benchmarks.

As the benchmark methodology and the composition of the benchmark stream were well described in the article by Walter Berndl mentioned above, we shall not repeat them here but refer the interested reader to that article for further details.

The first table shows the results for MVT2 1.7 and MVS3.7 from the January benchmarks and the MVS3.7 results from the June benchmarks.

table1

	MVT2 1.7 JAN	MVS3.7 JAN	MVS3.7 JUN
EL. TIME HSJS (SEC)	1012	1330	1115
EL. TIME BATCH (SEC)	1892	2032	1931
EL. TIME TSO (SEC)	1879	1634	1533
CPU BUSY (SEC)	1479	1696	1670
PROBLEM STATE (SEC)	786	768	769
INSTRUCTION COUNT (MIL)	3674.5	3544.1	3506.6
HSB MISS (MIL)	155	222	215
HSB ACCESS (MIL)	5278	4990	4937
HSB HIT RATIO %	97.1	95.5	95.7
INSTRUCTION RATE (MIPS)	2.48	2.09	2.10
PROBLEM/CPU RATIO %	53.1	45.3	46.1
CPU BUSY %	78.2	83.5	85.6

cont´d...

MVS RELEASE 3.7 BENCHMARKING RESULTS cont´d

The second table shows the comparison between MVT2 1.7 and the June MVS3.7 system.

table2

	MVT2 1.7 JAN	MVS3.7 JUN	%
EL. TIME HSJS (SEC)	1012	1115	110
EL. TIME BATCH (SEC)	1892	1931	102
EL. TIME TSO (SEC)	1879	1533	82
CPU BUSY (SEC)	1479	1670	113
PROBLEM STATE (SEC)	786	769	98
INSTRUCTION COUNT (MIL)	3674.5	3506.6	95
HSB MISS (MIL)	155	215	139
HSB ACCESS (MIL)	5278	4937	94
HSB HIT RATIO %	97.1	95.7	99
INSTRUCTION RATE (MIPS)	2.48	2.10	85
PROBLEM/CPU RATIO %	53.1	46.1	
CPU BUSY %	78.2	85.6	

The third table shows the improvement of the June MVS3.7 system over the January MVS3.7 system.

table3

	MVS3.7 JAN	MVS3.7 JUN	%
EL. TIME HSJS (SEC)	1330	1115	84
EL. TIME BATCH (SEC)	2032	1931	95
EL. TIME TSO (SEC)	1634	1533	94
CPU BUSY (SEC)	1696	1670	98
PROBLEM STATE (SEC)	768	769	100
INSTRUCTION COUNT (MIL)	3544.1	3506.6	99
HSB MISS (MIL)	222	215	97
HSB ACCESS (MIL)	4990	4937	99
HSB HIT RATIO %	95.5	95.7	100
INSTRUCTION RATE (MIPS)	2.09	2.10	100
PROBLEM/CPU RATIO %	45.3	46.1	
CPU BUSY %	83.5	85.6	

cont´d...

MVS RELEASE 3.7 BENCHMARKING RESULTS cont´d

The last table shows the comparison between the January MVT and MVS systems.

table4

	MVT21.7 JAN	MVS3.7 JAN	%
EL. TIME HSJS (SEC)	1012	1330	131
EL. TIME BATCH (SEC)	1892	2032	107
EL. TIME TSO (SEC)	1879	1634	87
CPU BUSY (SEC)	1479	1696	115
PROBLEM STATE (SEC)	786	768	98
INSTRUCTION COUNT (MIL)	3674.5	3544.1	96
HSB MISS (MIL)	155	222	143
HSB ACCESS (MIL)	5278	4990	95
HSB HIT RATIO %	97.1	95.5	98
INSTRUCTION RATE (MIPS)	2.48	2.09	84
PROBLEM/CPU RATIO %	53.1	45.3	
CPU BUSY %	78.2	83.5	

Summary

The June results are very encouraging.

1. HSJS has shown the most improvement and is now within ten percent of MVT rather than the thirty percent difference shown in the January runs.

2. Total elapsed time is now only two percent greater than MVT.

3. These results were obtained without any major tuning effort on the June system. We are now in the process of running more benchmarks to evaluate a number of possible tuning changes.

4. These results use the current version of the HSJS monitor. We expect further improvements when the HSJS monitor redesign is completed.

John Sutherland

MVS PHASED IMPLEMENTATION

As most users are aware, UTCC has been involved in a major project to develop and install MVS as the operating system for the S/370-165-II. Previous newsletters have reported on the progress of the development effort since the beginning of the year. The project has now reached the point where public testing of MVS can be announced.

The testing and implementation of MVS as the production operating system will proceed in a phased manner. This phased implementation plan has been designed so that our user community can get accustomed to the operating system. It will also provide a schedule which will allow all components of user software to be validated under the new system. Should any problems be uncovered, there will be adequate time to investigate problems and resolve them in the earlier phases. The latter phases will afford UTCC a chance to monitor the system as the September load increases and allow our staff to tune the system as necessary. This phased implementation plan is completely different from our previous MVS installation attempt. It is based on our recognition that no matter how thoroughly the benchmark and validation testing is done, it is still a laboratory situation and full production-level loads will be required to thoroughly exercise the system.

The phases are described in more detail in the next paragraphs. Users will note that no hard dates have been quoted in the initial phase descriptions. Advance notice will be given for each phase and users will be advised of the precise times and durations of all tests. Please watch HOTNEWS, signs etc. for further details as they become available.

Phase One

This period lets us test specific pieces of MVS with live jobs in a reasonably controlled environment. This will allow us to functionally validate individual components of the system. Beginning with only CLASS=A GPJS and High Speed Jobs in the latter part of July, we plan to add a few major components a week until we have a complete MVS system. This should take one to two months and will be complete when all supported components of the system function to our satisfaction. Testing during this period is tentatively scheduled for Friday evenings from 18:00 to 24:00 and will be free, although a valid S/370 Service Access Code will be required. A list of components available and known restrictions will be available for each test. Initially, tests will be conducted from the Sandford Fleming Terminal and the Engineering Undergraduate Terminal, with remotes being brought in as phase one progresses.

Phase Two

This period is designed to allow all S/370 users to verify their jobs will run correctly under MVS. It also enables us to test the completely integrated system in an environment that more closely approaches normal production. During this phase we will expand testing from Friday evenings to include weekend activities. Beginning with this phase we will use an IBM utility to transfer jobs from MVT to MVS (and vice versa) transparently to the user. Provision will be made to allow the user to specify the system he requires, if essential; otherwise jobs will be run on the system currently in use when the job is eligible for execution.

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MVS PHASED IMPLEMENTATION cont'd

Phase Three

This period extends the second phase to weekdays, giving sufficient load to allow us to monitor the system and obtain optimum performance for our workload. Full documentation describing the differences between MVT and MVS will be available, with assistance in conversion provided by UTCC staff. During this period, MVS production expands to become the common system and MVT will be available only as necessary.

Phase Four

MVS becomes the production system. MVT will not be returned to service after this point.

Stan Yagi/Derry Cox

PUBLIC 2741 TERMINALS

Public 2741 terminals are no longer available on the third floor of McLennan Labs. These terminals have been moved to the Engineering Undergraduate Terminal. Twelve 2741s have been installed for public use in the south end of EUT located on the main floor of the Engineering Annex. They are currently all wired to the S/360-65; nine are wired to APL ports and the remaining three to ATS ports. There are also three 2741s installed in the Sandford Fleming Terminal (SF112). One 2741 is equipped with an APL typeball and is wired to APL/SV on the S/370-165-II. The remaining two terminals have standard typing elements and can be plugged into any two of the three available ports i.e. one TSO port and two WYLBUR ports.

Five public 2741s suffered severe water damage in the Sandford Fleming fire and LA36 DECWRITERS have been ordered to replace them. On arrival, they will be installed in the south end of EUT and will provide access to TSO and WYLBUR on the S/370-165-II.

Eugene Siciunas

NEW RELEASE OF PL/C ON HSJS

Release 7.5 of PL/C is now available on the High Speed Job Stream (HSJS). Features of the new release include a macro processing facility, support for record oriented I/O, user specification of the environment option for files, additional job card options and expanded post mortem dump statistics. To access this version of the compiler, code $JOBD as the first five characters of the $JOB card. For details on the features of the new compiler, contact your local Computing Co-ordinator or Mark Tapia at 978-7109. Due to problems with the Monitor Control Program (MCP) which runs the HSJS and current memory restrictions, the old release of PL/C will continue to be available. Work is currently underway to solve the first problem, while the memory problem will be solved when MVS is installed and the region available to PL/C can be increased.

Mark Tapia

REGIONAL COMPUTING CENTRE REPORT

The Task Force on the Toronto Universities Computing Centre Consolidation has been studying the feasibility of establishing a Regional Computing Centre to serve the needs of Ryerson, Toronto and York universities. The Task Force has completed its study and has put forth the following recommendation:

The Task Force recommends the formation of a Joint Regional Centre with an AMDAHL 460/V7, a DEC 1090 and an IBM S/370-165-II. The major advantages of the Joint Centre would be:

"- the accessibility to one of the largest computers on the market

- the improved flexibility to meet future growth and changing user requirements
- the availability of a separate machine to process administrative work and
- the opportunity to operate from properly equipped premises

We have examined the technical and operational factors and satisfied ourselves that the Regional Centre can be implemented and be made a viable operation."

The Regional Centre would be established as a non-profit corporation governed by a Board of Directors appointed by the three participating institutions. It is proposed that the Regional Centre would operate from leased premises which would be properly equipped for housing computer equipment.

The services offered would be all those services that are presently available at Toronto, York and Ryerson. These services would include a low cost, low priority Class C type service that is available at the University of Toronto today.

These services would be offered to the users through Local Centres at each institution. The concept of a Local Centre providing the interface between the local user communities and the Regional Centre closely parallels the existing Computer Centre organization. The "Local Centre" staff consists of our Services organization which provides applications, advising and programming support services and also manages the local batch terminal facilities. The "Regional Centre" staff corresponds to our Operations and Systems groups which have responsibility for operating and maintaining the large central systems.

The day-to-day operating philosophy of the Regional Centre would be very similar and in most instances the same as our existing mode of operation. There is general agreement on accounting procedures, priority scheduling algorithms, hours of service and job classes.

The equipment configured for the Regional Centre would consist of an AMDAHL 460/V7 for academic computing, an IBM S/370-165-II for administrative computing and a DEC 1090 for interactive services. These systems were selected because they would provide all the current services, at equal or better levels of quality and flexibility and would meet the growth estimates through to 1983.

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REGIONAL COMPUTING cont´d

Figure 1 below shows the projected growth summary for the combined academic and administrative work loads of the three institutions. The bar graphs on the right of Figure 1 depict the capacities of the AMDAHL 460/V7 and S/370-165-II systems.

The representatives of the University of Toronto on the Task Force perceived the following advantages of a Regional Centre:

"When the proposed Regional Centre is compared to the most likely Toronto future system configuration, that is, academic and administrative computing done on one large machine, supplemented by an interactive service of modest scale, with the facility located off the St. George campus, the following advantages are seen:

- a modest saving in operating cost
- the continued separation of academic and administrative computing, seen as highly desirable by all users
- access to increased capacity and a wider variety of services
- guaranteed stability for at least five years, even if growth occurs at a rate higher than that currently anticipated

It is difficult to assign a financial value to the non-financial benefits listed above: a rough measure is the cost difference between the most likely alternative described above and a three-machine configuration which would provide some, but not all, of those benefits. (The three machine configuration would provide a separate machine for academic and administrative computing). This cost difference is estimated at about $700,000 annually."

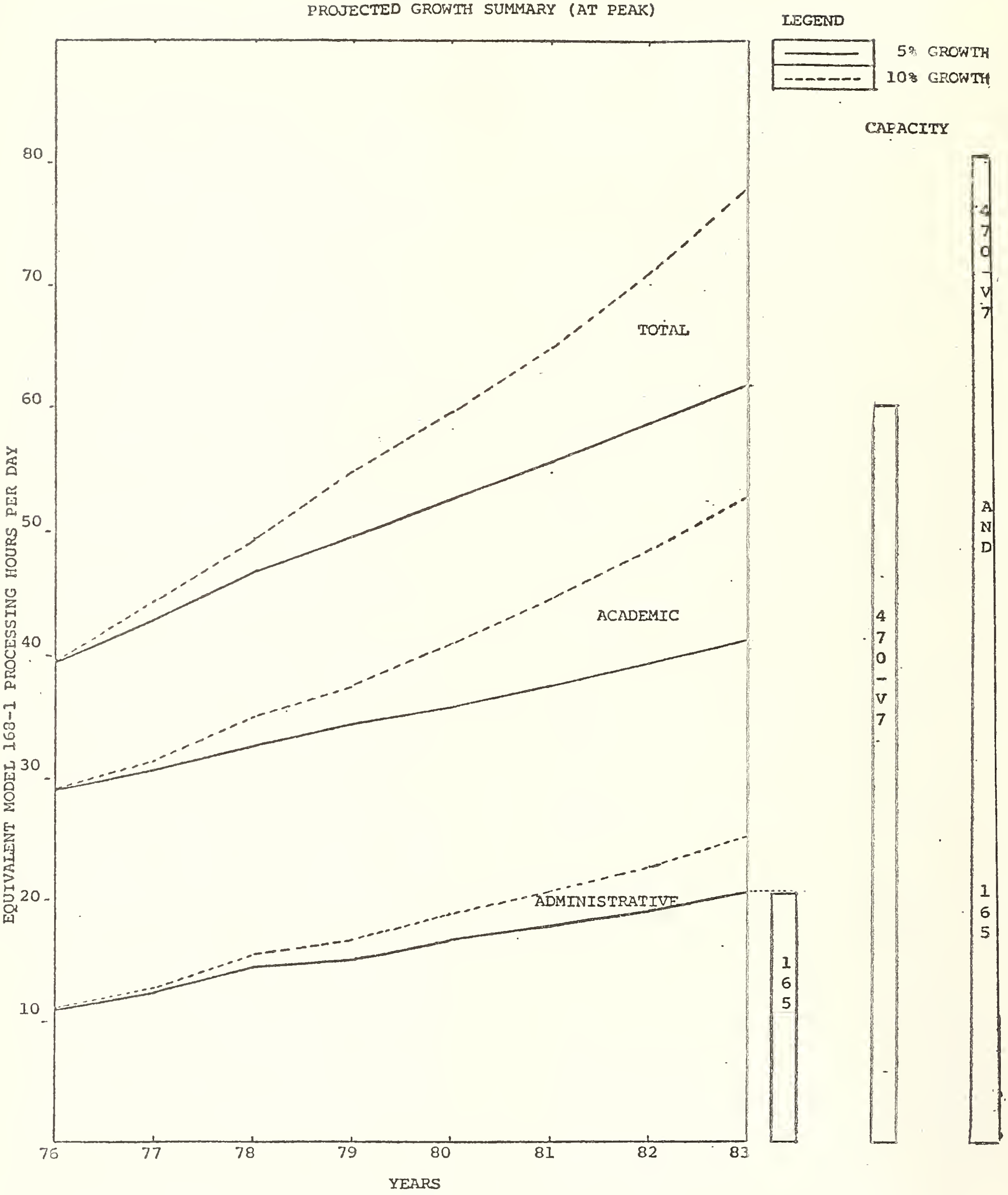
A copy of the complete Task Force Report will be available at all our terminal locations and at the Information Office for your reference.

We would appreciate your feedback, negative as well as positive, on the concept of the Regional Centre as proposed by the Task Force. Written responses should be directed to:

Prof. J.N.P. Hume
Chairman Advisory Committee
on Computer Facilities Service
Department of Computer Science
University of Toronto

Rein Mikkor

REGIONAL COMPUTING CENTRE
PROJECTED GROWTH SUMMARY (AT PEAK)



* These estimates do not include the use of MVS assist.

FIGURE I

CIVIC HOLIDAY/SUMMER HOURS

The following hours of service will be in effect for S/370-165-II users during the Civic Holiday:

July 30 (Saturday)	July 31 (Sunday)	Aug. 1 (Monday)
10:00-18:00	10:00-18:00	closed

Hours of service for S/360-65 users will be:

9:00-18:00	9:00-18:00	unattended

Normal hours of service for both systems will resume Tuesday, August 2.

All users are reminded that summer hours for all eligible University of Toronto staff members will commence on Monday, July 4 and regular hours will resume on Tuesday, September 6. Due to summer hours, UTCC offices will close at 4:30 P.M. Monday to Friday.

Trudy Holland

REMOVAL OF APL/SV SERVICE

UTCC wishes to announce our decision to remove the APL/SV product from service on the S/370-165-II. This was a difficult decision to reach; however, it has been very clear for many months that APL/SV does not have a viable future either functionally or financially as we have implemented it on the S/370-165-II. Some of the reasons for our decision are outlined in the latter part of this article; the paragraphs immediately following deal with the mechanics that we plan to activate to assist conversion of the APL/SV user base to other services.

No final production date will be announced until the full impact of conversion is established. UTCC will contact all APL/SV users directly and arrange for the migration of their work to another service currently offered by UTCC. When all users have been successfully removed, the service will be discontinued.

A letter describing the details of our assistance in converting users from APL/SV will have gone out to all users by the time this edition of COMPUTERNEWS reaches our subscribers. As of July 15, 1977, no new APL/SV accounts will be opened for users unless the user can justify the necessity of the account for use in conversion or for a special project of very short duration.

APL/SV was installed on the S/370-165-II in August of 1975. Since then, sales of this service have been very low. In the majority of months during the past year, UTCC has failed to recover even the direct costs of software and telecommunications rentals necessary to offer the product.

Moreover, APL/SV ties down resources (e.g. memory, CPU) which could be used by other service streams on the S/370-165-II.

It has also become evident that most APL/SV users were SHARP APL users who switched to APL/SV in order to avail themselves of certain S/370-165-II features, rather than the purely functional enhancements of APL/SV itself.

cont´d...

REMOVAL OF APL/SV cont´d

Although UTCC introduced a pricing policy for APL/SV that was equitable with SHARP APL in terms of work done by the APL processor, we have found that the average typical cost of O.S. file access through the APL/SV TSIO auxiliary processor is at least twice that of equivalent access to SHARP APL files.

The APL/SV RJE (Remote Job Entry) has been successful with a reasonable cost. However, RJO (Remote Job Output - e.g. Hasp log, JCL, source, compiler messages, etc.) has proved to be exceedingly expensive in comparison with the cost of normal system output processing.

Thus, though the TSIO interface to O.S. datasets is functionally adequate, the costs of this function are high in comparison with the standard methods and purposes of O.S. dataset access.

APL/SV does have some good functional enhancements compared to other versions of APL and at the time of installation of APL/SV they were advanced concepts. However, these technical advantages - notably the quad-variable support - have not attracted users sufficiently to entice them to switch away from the familiar SHARP APL environment. The functional enhancements of APL/SV are generally being picked up in other versions of APL from most vendors. It is worth noting that APL SF - the APL available on the DEC 1060 (refer to the article entitled TIME-SHARING SYSTEM in this issue) incorporates almost all the functions of APL/SV.

Over and above the problems mentioned above concerning the poor sales record of APL/SV and the implementation deficiencies and high user costs associated with the present APL/SV under MVT, the future outlook for APL/SV is poor. IBM has dropped support for this product. UTCC has considered other possibilities of installing APL/SV under MVS or the newer IBM product VS APL under TSO with MVS and has found none of these alternatives acceptable.

In conclusion, we regret that there will be some user inconvenience resulting from this decision, but we feel that, in view of the future development and growth of the services on the S/370-165-II, it has been the correct decision to make and is in the best interests of all our S/370-165-II customers. Should users wish further information, please feel free to contact one of the authors of this article.

Stan Yagi/Ernst Goetze/Derry Cox

FAREWELL TO THE 155

By the time this article is published, the IBM S/370-155-II, which has been performing the bulk of the administrative computing at the University of Toronto since 1972, will have been powered down for the last time at UTCC. The 155 is being sold to make way for an IBM S/370-158-3 which is being installed over the July 1st long weekend.

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FAREWELL TO THE 155 cont´d

The 155 - A Retrospective

During the 5 1/2 years that the 155 has been installed, both the machine and its workload have changed substantially. In January 1972, it was a 0.5 Megabyte machine running OS/MFT and processing IMS batch jobs. The Dynamic Address Translation (DAT) feature was installed in August 1973, transforming it from a 155 to a 155-II with virtual storage capabilities. By June 1975, the machine had 1.0 Megabytes of memory and was running OS/VS 1. At this time a data link with the S/370-165-II was established allowing the transfer of data from the 155 to the 165. The connection of the remote batch terminal at Student Record Services in January 1976 marked the beginning of RJE on the 155. In March 1976, main memory was increased by another 0.5 Megabytes bringing the total to 1.5 Megabytes. With the installation of HASP in December 1976, the function of the 165 data link was increased to a one-way HASP-to-HASP link allowing the transfer of jobs and output from the 155 to the 165 and its remotes.

Along with all these changes in the batch service, there was an even greater change in the IMS online service. When this service was first offered in August 1974, there were just two local terminals attached and the transaction volume was in the low hundreds for an 8 hour day. The IMS online system which the 158 will be assuming has a network of over 80 terminals situated all over the downtown campus as well as Scarborough and Erindale. The transaction volume varies between 10,000 and 20,000 transactions for a 10-14 hour day.

The 158 - Future Plans

The 158 being installed is a 4.0 Megabyte S/370-158-3. The 60-80% increase in CPU speed over the 155 should meet the University´s administrative computing requirements for the next 18-24 months. The 167% increase in main memory will alleviate the memory shortage on the 155 as well as allow the upgrade of the operating system to MVS. This upgrade, which is currently planned for late 1977, will provide increased system reliability and greatly enhanced security through the use of the Resource Access Control Facility (RACF). As well, MVS will provide the potential for offering, if resources permit, a TSO service for remote job entry and interactive debug.

Sean Keeley

OFF THE TOP

Illegal Use of Accounts and Access Codes

ANY PERSON WHO GAINS UNAUTHORIZED ACCESS BY ANY MEANS TO A UNIVERSITY OF TORONTO COMPUTER SYSTEM IS LIABLE TO CRIMINAL PROSECUTION

DIRECTOR

The above text will soon appear on signs that will be posted at all UTCC input/output batch terminals. The message reflects the University of Toronto´s commitment to deal with the problem of unauthorized use of accounts in the same manner any other breach of the Criminal Code would be handled within the University.

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OFF THE TOP cont´d

In the past, UTCC has investigated all incidents of misuse of our customers´ accounts reported to us. Over the past few years there have been roughly 25 incidents or more per annum with the value of services misused ranging from a few dollars to amounts in the thousands of dollars. If expressed as a percentage of total UTCC accounts, the frequency of account misuse is not high. However, once an account has been stolen, the theft may be compounded many times before it is detected. Unlike the theft of a physical article, the person who "steals a service" is frequently able to continue to do so until the legal user detects the misuse or the thief decides he has pushed his luck far enough and/or finishes his project and moves on. This potential for large amounts of misuse before detection would be considerably lower if our users practiced the same levels of scrutiny and protection of their computer accounts as they normally do for their other possessions and accounts.

In January 1975, UTCC moved to the present policy of placing the onus of protection of accounts on the account holder. The only exception involved the type of theft where reasonable evidence existed that the thief obtained accounts through UTCC error or through the direct access of machines files - types of theft for which users would obviously not be responsible. Since the institution of this policy, UTCC has uncovered only one such instance and has granted credit based on this. In the successful investigations of all other thefts, UTCC invariably found that the thefts were a result of the user´s carelessness in protecting his code. Almost all thefts resulted from searches of waste baskets, thumbing of unattended card decks or listing on-line datasets to pick up card images of job statements. Those incidents which we were unable to follow up successfully were frequently up to six weeks old before the user noticed the theft - an indication that the user involved did not monitor his account balance which would have provided an early indicator of a problem.

So why the signs some two years or more later? The reason is that crime involving computers is a rather young field and until recently, the general types of incidents involved primarily the misuse of or tampering with files or other fraudulent use for the benefit of the instigator rather than the theft of the service as such for (presumably) valid or harmless purposes. This latter type of misuse has only become noticeable in the last few years since computer access has been offered as a "saleable service" by commercial companies and institions such as ours. It is now being recognized as probably the largest area of financial loss through criminal activities in the data processing field; the volume of articles in recent data processing and law enforcement trade journals on this subject can attest to this.

cont´d...

OFF THE TOP cont´d

The University of Toronto now feels confident that criminal prosecutions can be initiated for instances of misuse of computer facilities within the University of Toronto community. The Office of the Vice President - Internal Affairs has instructed UTCC to fully investigate and report to the University of Toronto Police all incidents of unauthorized computer activities which can be traced to an individual or group of people. Furthermore, UTCC has developed tools which can aid in the detection of account misuse while in progress and allow us to call in the police immediately. These signs are being posted to warn potential account thieves that the University will treat incidents of this nature very seriously.

Account holders must still realize that the onus of account protection remains squarely on them where it properly belongs. UTCC and the appropriate authorities will put a lot of effort into catching code thieves and prosecuting whenever possible, but there is little we can do to prevent user carelessness resulting in codes being stolen in the first place. Remember to do everything reasonable to protect your account in the same way you would protect any other account or belonging. We cannot remind you any more frequently than we do now. For those users who wish to review the full statement of policy in this area, please refer to USERBOOK topics 2.5040 and 3.2300. If you ever suspect your account is being misused, please contact the UTCC Accounting Group as soon as possible "while the trail is still warm".

Derry Cox

REMCOM BITES THE DUST!

The Arts and Science Terminal and the New Physics Terminal are delighted to announce the forthcoming replacement of the REMCOM 4780 terminals. The new equipment will be supplied by Control Data Corporation (CDC) and will be installed at AST in September 1977 and NPT in January 1978.

The new terminals consist of a Cyber 18-05 minicomputer, a 600 cards per minute reader, a 600 lines per minute band printer and a CRT display. The reader is well designed for ease of use and, with fewer mechanical parts than the REMCOM, it should be a much more reliable piece of equipment. Also, with this RJE terminal it is unnecessary to reload if the system goes down.

AST is planning to replace the online punch with a keypunch/interpreter in September 1977.

We anticipate that the installation of the Cyber 18-05 terminals will result in noticeably better service for users in terms of reliability and quality of maintenance.

Bob Chambers and Jill Reece

UTCC PHONE SERVICES RESTORED

Users are reminded that the UTCC phone services disrupted by the fire have been restored. Phone numbers in effect before the fire have been reinstalled.

The following lists some of the more heavily-used phone numbers. Additional phone numbers appear on the inside back cover of COMPUTERNEWS.

UTCC INFORMATION OFFICE	978-4990
PROGRAM ADVISORS	978-8599
APL PROGRAM ADVISORS	978-6710
UTCC ACCOUNTS	978-7148
UTCC ACCESS CODES	978-8703

UTCC DATASET AND CATALOG POLICY

This article outlines UTCC's policy concerning dataset naming conventions and catalog usage conventions which were previously not well-defined. This policy states that:

- all registered online datasets must be cataloged
- only one copy of a dataset by the same name may exist across all of the online volumes
- cataloged off-line datasets must follow UTCC dataset naming conventions

Currently 95% of all user datasets in UTCC's dataset library already comply with this policy.

The dataset policy outlined above impacts only those users whose use of datasets does not fall into the above group. The purpose of these rules is to:

- permit a redesign of UTCC's dataset registration utilities (batch ALLOC, batch SCRATCH, batch CONVERT, TSO REGISTER and TSO SCRATCH) in order to increase their efficiency and simplify their maintenance
- simplify the maintenance of UTCC's catalog on our current MVT Operating System and on the future MVS Operating System

For online, registered but uncataloged datasets, UTCC will take the following action:

1. if only 1 copy of the dataset exists, the dataset will be cataloged
2. if more than 1 copy of the dataset exists across multiple volumes, UTCC will contact the user. The user will nominate 1 copy which is the "correct" one. This copy will be cataloged; the others will be scratched.

For offline datasets on tape or disk volumes the following points apply:

1. Regardless of how an offline dataset is accessed by the JCL of a job, a /*SETUP card is still required for each offline volume. Failure to include a /*SETUP card as required will result in cancellation of the job by the operator. See module 3.3BATCH of USERBOOK for more details on /*SETUP.

cont'd...

UTCC DATASET AND CATALOG cont´d

2. If a user does not catalog his offline datasets and refers to the volume serial number explicitly in his JCL, then the dataset can have any name he chooses.

3. If the user wishes to catalog an offline disk or tape dataset, then the dataset name must follow UTCC´s standards. That is, the dataset name must be prefixed with one of:

   - USER. or a user prefix such as U01234.
   - a TS id such as TS01234.
   - TSIO.
   - a non-standard prefix accepted by special arrangement with UTCC.

4. Users requiring a non-standard prefix should contact Assurance at 978-6680 or 978-6281. If the user intends to use this prefix to point at datasets on an offline disk volume, then UTCC will assist in setting up a private catalog on that volume.

In all cases, non-prefixed dataset names such as JACK3 are not permitted in the catalog. Users who currently have non-prefixed dataset names will be notified by Assurance and assisted in converting to a prefixed name such as "USER.JACK3".

If you have any questions or require assistance with this dataset and catalog policy call Assurance at 978-6680 or Walter Berndl at 978-6281.

Walter Berndl

ATS OUTPUT RETRIEVAL

Effective June 27, 1977, ATS printed output may be retrieved from self-service output filing bins located outside of room 333 in McLennan Labs 60 St. George Street. The output files are divided into alphabetical ranges and output is filed alphabetically by the document-name appearing on the top of the front separator page of the printed output. In order to use these output bins, the user must prefix his ATS document-name with ITS. e.g. output from ATS jobs with document-names such as ITS.REPORT, ITS.chart etc. would be filed in these bins. Users with confidential output wishing to retrieve their ATS output from McLennan Labs room 333 should use a document-name prefixed by //ITS. e.g. //ITS.REPORT, //ITS.chart. This security output will be kept inside the computer room and must be retrieved by an operator. All other document-names will result in the ATS output being delivered to the Sandford Fleming Terminal as usual.

The following summarizes the ATS output filing options:

ATS DOCUMENT NAME	OUTPUT LOCATION
ITS.document-name	Stored in bins outside room 333 McLennan Labs
//ITS.document-name	Stored inside computer room 333 McLennan Labs
document-name	Delivered to SFT and stored in bins in I/O area
//document-name //SFT.document-name	Delivered to SFT and must be retrieved personally from operator

cont´d...

ATS OUTPUT RETRIEVAL cont'd

//term.document-name (where term specifies a UTCC remote terminal)	Delivered to SFT and forwarded to appropriate terminal e.g. //ERIN.CHART would be delivered to Erindale

The weekend delivery schedule has been extended to include an extra delivery to SFT on Saturdays and Sundays between 10-11 A.M. in addition to the existing schedule. An update to USERBOOK 4.3275 will be issued in the near future to reflect these changes. For further information on building access, output delivery and turnaround, call 978-7374.

Kam Jain

REMOVAL OF RELIABILITY REPORTS FROM COMPUTERNEWS

Beginning with this issue of COMPUTERNEWS, reliability reports will no longer be published for the S/370-165-II and the S/360-65 as a regular feature. This decision has been made primarily for two reasons.

1. Reader opinion concerning regular reliability reports has generally reflected total disinterest.

2. The statistics required for these articles are normally completed one day after the end of the calendar month - the same time that COMPUTERNEWS is being mailed. This one month lag results in the reliability information being rather stale by the time it reaches COMPUTERNEWS readers.

Reliability information is generally of interest to users only when it is current, for example when system problems exist or when system components are replaced at the end of contractual lease periods. In the future, topical articles will be published concerning vendor or equipment replacements and reliability implications will be included in these. Up-to-date reliability information can always be obtained from UTCC Assurance minutes which are posted at all terminal locations.

Derry Cox

ARE YOU CONCERNED WITH YOUR OFFICE EFFICIENCY?

ATS CAN HELP YOU.

Prepare Large Documents

●

Eliminate the Necessity of Retyping Entire
Documents that Require Revision or Updating

●

Produce Unlimited "Original" Copies

●

Handle Heavy Typing Loads

●

Increase Office Productivity

ATS is easy and quick to learn

INTERESTED?

FOR FURTHER INFORMATION CONTACT
UTCC'S CUSTOMER SERVICE GROUP AT
978-6021

P.S. ... P.S. ... P.S. ... P.S.
BACK TO THE PROBLEM

As time progresses, medical research is turning more and more toward computer applications as a means of solving complex medical problems which have plagued us for centuries. The UTCC Programming Services Group has undertaken a project for a research group of a large Toronto hospital dealing with one such problem. The project deals with the diagnosis of patients with back injuries. A great deal of statistical data has been compiled on the causes and symptoms of back problems and the medical histories of patients with back problems. It is up to us to produce any correlations among this data which is presented in long, complicated medical terms.

In order to find such correlations, we are using SPSS (Statistical Package for Social Sciences). SPSS is a heavily used package in the research process because it provides a wide variety of statistical tools as well as simple and rapid access to the researchers' data. The project involves a number of the most commonly used procedures in Social Science data analysis such as frequency and condescriptive distributions, cross-tabulations and breakdown tables as well as many listings of selected data and selected conditions for the data involved.

The project has been divided into three parts for ease of computation. The hospital has already received the results from the recently compiled first stage and has already found the project to be a worthwhile investment. For stages 2 and 3... I'm turning to a dictionary of medical terms.

Isabel Dunlop

PERSONNEL CHANGES

During the month of June, Sue Annett, Margo Harvie and Martin Hubel left the Computer Centre. Sue is taking an extended holiday, Margo has joined I.P. Sharp Associates Ltd. and Martin is working at Confederation Life Insurance. Best wishes and good luck to all.

Isabel Dunlop has transferred from the Sandford Fleming Terminal to Programming Services and Mary Nippak has transferred from Administration to Operations as Derry Cox's secretary.

In July, Anne DeFazio of the Accounting Office will be leaving the Centre and Sylvia May will be transferring from Operations to the Accounting Office to replace Anne. Best wishes to you both.

Clara Silva

RECENT ACQUISITIONS IN THE DEPARTMENT OF COMPUTER SCIENCE LIBRARY

Gordon, Geoffrey.
The application of GPSS V to discrete system simulation.
Englewood Cliffs, N.J., Prentice-Hall, 1975.

Maurer, Ward Douglas.
The programmer's introduction to SNOBOL.
New York, Wlsevier, 1976.

cont'd...

RECENT ACQUISITIONS cont'd

Music Computation Conference, 2d,
University of Illinois, Nov. 1975.
  Proceedings, compiled by J.
  Beauchamp and J. Melby.
Urbana, University of Illinois, 1975.

Tsichritzis, Dionysios C. and
Lochovsky, F.H.
  Data base management systems.
New York, Academic Press, 1977.

UTCC COMPUTER EQUIPMENT

SYSTEM/370 MODEL 165-II

- located in SF103/105/112
- provides General Purpose Job Stream, High Speed Job Stream, APL SV and TSO services
- 4 megabytes of memory
- 1 drum (2301)
- 18 disk drives (3330)
- 9 disk drives (2314)
- 6 magnetic tape drives (4 9-track and 2 7-track)
- 6 display consoles
- 6 printers
- 5 card readers
- 1 card punch
- 8 remote batch terminals
- 1 paper tape reader
- Calcomp plotters (11" and 30")
- Gould plotter (11")
- OS/MVT with HASP

SYSTEM/360 MODEL 65

- located in McLennan Physical Laboratories
- provides APL and ATS services
- 1536K bytes of core
- 26 disk drives (2314)
- 3 9-track magnetic tape drives
- 1 printer
- 1 card reader
- 1 card punch
- 140 typewriter terminals
- OS/MVT with APL and ATS

COMPUTER RESEARCH FACILITY

- located in SF207
- DEC GT44 System with
  - 1 PDP-11/40 CPU
  - 2 RK05 disk drives
  - 2 9-track dual density tape drives
  - 1 1000 cpm card reader
  - 1 300 lpm line printer
  - 1 220 lpm lower case line printer
  - 1 paper tape reader/punch
  - VT11 graphics display unit
  - Lab. peripheral system with A/D and D/A
  - 1 Digitizing Tablet (20" by 20")
  - 1 ZETA incremental plotter (11")
  - 1 CVI 260 Video Bandwidth Compressor
  - 1 CVI 261 Video Bandwidth Expander
- DEC GT40 System with
  - 1 PDP-11/05 CPU
  - 3 DIABLO disk drives (RK05 type)
  - 1 9-track/800 BPI tape drive
  - VT11 graphics display unit
  - 1 Digitizing Tablet (20" by 20")
  - Card reader and line printers shared with GT44

UTCC DIRECTORY

ACTING DIRECTOR

Rein Mikkor	NP351	5058

INFORMATION OFFICE

General Inquiries	EA206	4990
Marg Doherty	EA206	8995

MANAGER, SERVICES

Stan Yagi	SG200	7331

INFORMATION SERVICES

Don Gibson	EA206	5568

SUPERVISOR, CUSTOMER SERVICES

Bill Foster	SG301	6021

SUPERVISOR, PROGRAMMING SERVICES

Helen Peacock	SG201	6877

COMPUTING CO-ORDINATORS

Sandford Fleming Terminal		
Mark Tapia	EA207	7109
Program Advisors	EA207	8599
Erindale		
Clem DiPlacido		828-5311
Scarborough		
Martin Hubel		284-3173
Arts and Science		
Jill Reece	SS2104	6509
New Physics		
Bob Chambers	NP1201	8823

MANAGER, OPERATIONS

Derry Cox	EA206	7092

SUPERVISORS, OPERATIONS

Paul Scarborough (S/370-165-II)	SF105	6220
Kam Jain (S/360-65)	NP333	7374
Dave Wong (S/370-155)		6864

MANAGER, SYSTEMS

Rein Mikkor	NP351	5058

SYSTEM HARDWARE SUPERVISOR

Eugene Siciunas	EA206	4967

MANAGER, COMPUTER RESEARCH FACILITY

Dennis Smith	SF207	4086

LAB CO-ORDINATOR (CRF)

Krishna Patnaik	SF207	4086

ACCOUNTS

Ann DeFazio	EA206	7148
Yvonne Bowen	EA206	8702

ACCESS CODES

Gail Cavers	EA206	8703

MANAGER, INFORMATION SYSTEMS

Sean Keeley		3579

NOTE:

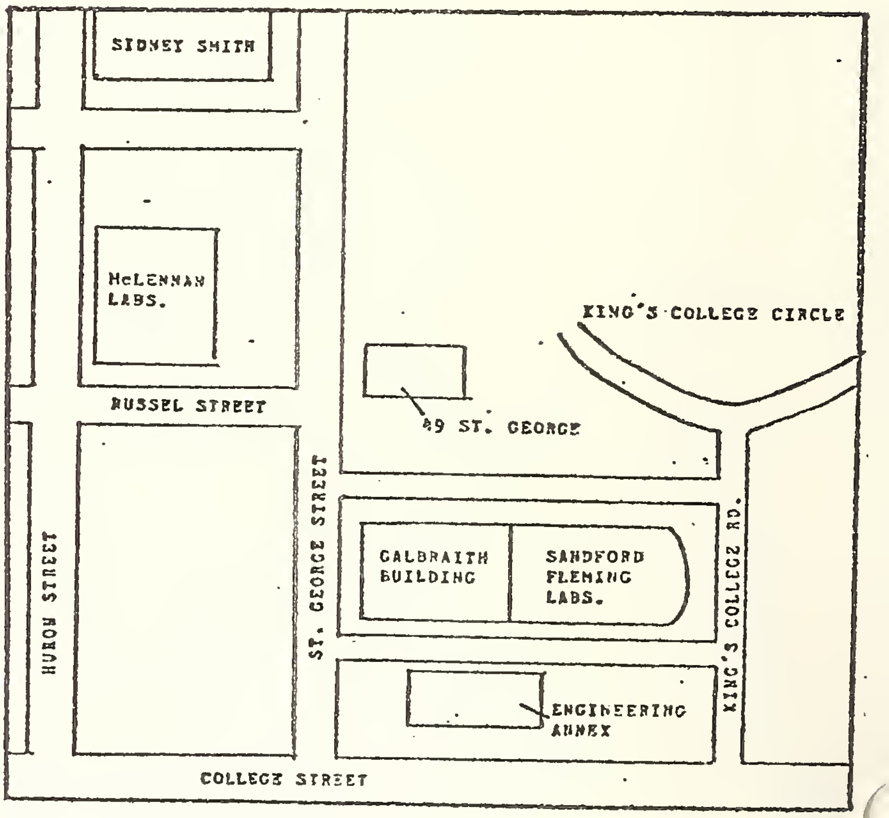
EA = Engineering Annex
SF = Sandford Fleming
SG = 49 St. George
NP = McLennan Physical (New Physics)
SS = Sydney Smith

JOB AND SYSTEM STATUS QUERIES

SYSTEM/370,TSO	7373
ATS/APL	6234
2741 TERMINAL MALFUNCTIONS	7107
029 KEYPUNCH MALFUNCTIONS	6465

SERVICES

	DIAL-UP	ADVICE
APL - 2741	7200	6710
APL(ASCII)	7200	6710
APL SV - 2741	7239	6710
APL SV - TTY	7447	6710
ATS	7100	7107
TSO - 2741	7303	8599
TSO - TTY (10 cps)	7390	8599
TSO - TTY (30 cps)	7386	8599
DATATALK	6710	6710
WYLBUR	7235(EBCDIC) 3950(ASCII) CENTREX 3954(ASCII) NON CENTREX	8599



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